

# Home Energy Rating Certificate

Projected Report  
Based on Plans

Rating Date: 2024-04-24

Registry ID:

Ekotrope ID: LMkDbKMv

## HERS® Index Score:

# 44

Your home's HERS score is a relative performance score. The lower the number, the more energy efficient the home. To learn more, visit [www.hersindex.com](http://www.hersindex.com)

## Annual Savings

# \$4,932

\*Relative to an average U.S. home

## Home:

5-7 Belknap St., Unit 1  
Arlington, MA 02474

## Builder:

Michael J. Collins

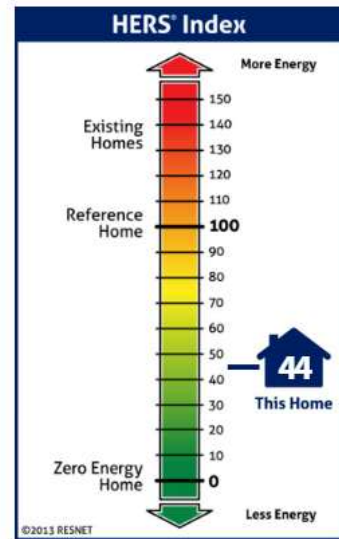
## Your Home's Estimated Energy Use:

	Use [MBtu]	Annual Cost
Heating	13.0	\$926
Cooling	0.8	\$59
Hot Water	2.6	\$183
Lights/Appliances	21.0	\$1,498
Service Charges		\$120
Generation (e.g. Solar)	0.0	\$0
<b>Total:</b>	<b>37.4</b>	<b>\$2,785</b>

## This home meets or exceeds the criteria of the following:

Massachusetts Stretch Code

2021 International Energy Conservation Code



## Home Feature Summary:

Home Type:	Duplex, single unit
Model:	Duplex/left
Community:	N/A
Conditioned Floor Area:	2,290 ft <sup>2</sup>
Number of Bedrooms:	4
Primary Heating System:	Air Source Heat Pump • Electric • 11.5 HSPF
Primary Cooling System:	Air Source Heat Pump • Electric • 23 SEER
Primary Water Heating:	Residential Water Heater • Electric • 4.09 Energy Factor
House Tightness:	3 ACH50 (Adjusted Infiltration: 3.00 ACH50)
Ventilation:	70 CFM • 30 Watts • ERV
Duct Leakage to Outside:	Forced Air Ductless
Above Grade Walls:	R-28
Ceiling:	Vaulted Roof, R-53
Window Type:	U-Value: 0.28, SHGC: 0.28
Foundation Walls:	R-21
Framed Floor:	R-38

## Rating Completed by:

**Energy Rater:** Mark Horgan

RESNET ID: 5543470

**Rating Company:** Associated Energy, LLC

PO Box 1346 Leominster MA 01453

9785348310

**Rating Provider:** Performance Systems Development

950 Danby Rd, Ste 201P, Ithaca NY 14850

607-277-6240

*Mark Horgan*

Mark Horgan, Certified Energy Rater

Digitally signed: 4/17/24 at 4:31 PM



Ekotrope RATER - Version:3.2.4.3381

The Energy Rating Disclosure for this home is available from the Approved Rating Provider.

This report does not constitute any warranty or guarantee.

# RESNET HOME ENERGY RATING

## Standard Disclosure

For home(s) located at: **5-7 Belknap St., Unit 1, Arlington, MA**

Check the applicable disclosure(s):

- ☒ 1. The Rater or the Rater's employer is receiving a fee for providing the rating on this home.
- ☐ 2. In addition to the rating, the Rater or the Rater's employer has also provided the following consulting services for this home:
- ☐ A. Mechanical system design
  - ☐ B. Moisture control or indoor air quality consulting
  - ☐ C. Performance testing and/or commissioning other than required for the rating itself
  - ☐ D. Training for sales or construction personnel
  - ☐ E. Other(specify)
- ☐ 3. The Rater or the Rater's employer is:
- ☐ A. The seller of this home or their agent
  - ☐ B. The mortgagor for some portion of the financed payments on this home
  - ☐ C. An employee, contractor, or consultant of the electric and/or natural gas utility serving this home
- ☐ 4. The Rater or Rater's employer is a supplier or installer of products, which may include:
- | Products  | Installed in this home by  | OR is in the business of   |
|---|--|--|
| HVAC systems  | <input type="checkbox"/> Rater <input type="checkbox"/> Employer | <input type="checkbox"/> Rater <input type="checkbox"/> Employer |
| Thermal insulation systems                                      | <input type="checkbox"/> Rater <input type="checkbox"/> Employer | <input type="checkbox"/> Rater <input type="checkbox"/> Employer |
| Air sealing of envelope or duct systems                         | <input type="checkbox"/> Rater <input type="checkbox"/> Employer | <input type="checkbox"/> Rater <input type="checkbox"/> Employer |
| Energy efficient appliances                                     | <input type="checkbox"/> Rater <input type="checkbox"/> Employer | <input type="checkbox"/> Rater <input type="checkbox"/> Employer |
| Construction (builder, developer, construction contractor, etc) | <input type="checkbox"/> Rater <input type="checkbox"/> Employer | <input type="checkbox"/> Rater <input type="checkbox"/> Employer |
| Other (specify): <input type="text"/>                           | <input type="checkbox"/> Rater <input type="checkbox"/> Employer | <input type="checkbox"/> Rater <input type="checkbox"/> Employer |
- ☐ 5. This home has been verified under the provisions of Chapter 6, Section 603 "Technical Requirements for Sampling" of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network (RESNET). Rater Certification #: 5543470

Name: Mark Horgan  
Organization: Associated Energy, LLC

Signature: Mark Horgan  
Digitally signed: 4/17/24 at 4:31 PM

I attest that the above information is true and correct to the best of my knowledge. As a Rater or Rating Provider I abide by the rating quality control provisions of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network (RESNET). The national rating quality control provisions of the rating standard are contained in Chapter One 102.1.4.6 of the standard and are posted at <https://standards.resnet.us>

**The Home Energy Rating Standard Disclosure for this home is available from the rating provider.**



# IECC 2021 Performance Compliance

## Property

5-7 Belknap St., Unit 1  
Arlington, MA 02474  
Model: Duplex/left

## Organization

Associated Energy, LLC  
Mark Horgan  
9785348310

## Inspection Status

Results are projected

5-7 Belknap St., Unit 1, Arlington MA  
projected

## Builder

Michael J. Collins

**This report is based on a proposed design and does not confirm field enforcement of design elements.**

## Annual Energy Cost

Design	IECC 2021 Performance	As Designed
Heating	\$729	\$607
Cooling	\$62	\$72
Water Heating	\$114	\$114
Mechanical Ventilation	\$56	\$39
<b>SubTotal - Used to determine compliance</b>	<b>\$961</b>	<b>\$831</b>
Lights & Appliances w/out Ventilation	\$869	\$869
Onsite generation	\$0	\$0
<b>Total</b>	<b>\$1,830</b>	<b>\$1,700</b>

## Requirements

✓	R405.2	Performance-based compliance passes by 13.5%	The proposed house meets the IECC 2021 Performance reference energy bill requirement by \$129.94.
✓	R405.2 Item 2 (IECC 2009)	Total UA alternative compliance passes by 25.5%.	The proposed home meets the UA requirement by 25.5%
✓	R405.2 Item 2 (IECC 2009)	Glazed Fenestration SHGC	
✓	R402.4.1.2	Air Leakage Testing	Air sealing is 3.00 ACH at 50 Pa and 0.21 CFM50 / ft <sup>2</sup> Shell Area. It must not exceed 5.00 ACH at 50 Pa or 0.28 CFM50 / ft <sup>2</sup> Shell Area.
✓	R403.3.1	Duct Insulation	There are no forced air ducted systems.
✓	R403.3.5	Duct Testing	
✓	R404.1	Lighting Equipment	At least 100.0% of fixtures shall be high-efficacy lamps, currently 100.0% are high-efficacy.
✓	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	2021 IECC Required Items must be checked as complete.
✓	R403.6.2	Mechanical Ventilation Efficacy	
✓	R403.6.1	Mechanical Ventilation Energy Recovery	
✓	R402.5	Area-weighted average fenestration SHGC	Area-weighted average fenestration SHGC is 0.276. The maximum allowed value is [No Limit].
✓	R402.5	Area-weighted average fenestration U-Factor	
✓	R401.2.5 Option 2	Additional energy efficiency	R401.2.5: 2.2 - 95% Threshold Met.

**Design exceeds requirements for IECC 2021 Performance compliance by 13.5%.**

As a 3rd party extension of the code jurisdiction utilizing these reports, I certify that this energy code compliance document has been created in accordance with the requirements of Chapter 4 of the adopted International Energy Conservation Code based on MIDDLESEX County. If rating is Projected, I certify that the building design described herein is consistent with the building plans, specifications, and other calculations submitted with the permit application. If rating is Confirmed, I certify that the address referenced above has been inspected/tested and that the mandatory provisions of the IECC have been installed to meet or exceed the intent of the IECC or will be verified as such by another party.

Name: Mark Horgan  
Organization: Associated Energy, LLC

Signature: Mark Horgan  
Digitally signed: 4/17/24 at 4:31 PM

Ekotrope RATER - Version 3.2.4.3381

IECC 2021 Performance compliance results calculated using Ekotrope RATER's energy and code compliance algorithm.  
Ekotrope RATER is a RESNET Accredited HERS Rating Tool. All results are based on data entered by Ekotrope users.  
Ekotrope disclaims all liability for the information shown on this report.